

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 26577	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/IL 03/00956	International filing date (day/month/year) 12/11/2003	(Earliest) Priority Date (day/month/year) 12/11/2002
Applicant  YEDA RESEARCH AND DEVELOPMENT CO. LTD.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☒ contained in the international application in written form.

☒ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IL 03/00956

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-121 (all partially)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-121 (all partially)

Chimeric polypeptides comprising an autoprocessing segment  
type A Bacterial Intein-Like domain (SEQ ID No 1-62, 105).  
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2. claims: 1-121 (all partially)

Chimeric polypeptides comprising an autoprocessing segment  
type ~~A~~ Bacterial Intein-Like domain (SEQ ID Nos 63-104,  
106). ~~B~~  
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## INTERNATIONAL SEARCH REPORT

International Application No

PC NL 03/00956

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K14/195 C12N15/62 C07K1/14

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, MEDLINE, Sequence Search, EMBASE, WPI Data, PAJ, CHEM ABS Data, EMBL

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	AMITAI GIL ET AL: "Distribution and function of new bacterial intein-like protein domains." MOLECULAR MICROBIOLOGY, vol. 47, no. 1, January 2003 (2003-01), pages 61-73, XP002273904 ISSN: 0950-382X (ISSN print) the whole document -----	1-121
X	DATABASE EMBL 'Online! 21 March 2000 (2000-03-21), FRASER ET AL.: "Neisseria gonorrhoe ORF 730" XP002273909 Database accession no. AAY75498 *Sequence SEQ ID No 17* the whole document ----- -/--	1-61



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

17 March 2004

Date of mailing of the international search report

01.06.04

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Seroz, T

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/IN 03/00956

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>ZHANG A ET AL: "Construction of a mini-intein fusion system to allow both direct monitoring of soluble protein expression and rapid purification of target proteins." GENE. NETHERLANDS 19 SEP 2001, vol. 275, no. 2, 19 September 2001 (2001-09-19), pages 241-252, XP004307847 ISSN: 0378-1119 page 250, left-hand column, paragraph 3 - page 251, right-hand column, paragraph 1; figures 1,3</p> <p>-----</p>	1-121
Y	<p>HUMPHRIES HOLLY E ET AL: "Expression of the class 1 outer-membrane protein of Neisseria meningitidis in Escherichia coli and purification using a self-cleavable affinity tag." PROTEIN EXPRESSION AND PURIFICATION. UNITED STATES NOV 2002, vol. 26, no. 2, November 2002 (2002-11), pages 243-248, XP002273905 ISSN: 1046-5928 page 247, right-hand column, paragraph 2 - page 248, left-hand column, paragraph 2; figure 1</p> <p>-----</p>	1-121
A	<p>ASPOCK GUDRUN ET AL: "Caenorhabditis elegans has scores of hedgehog-related genes: Sequence and expression analysis" GENOME RESEARCH, vol. 9, no. 10, October 1999 (1999-10), pages 909-923, XP002273906 ISSN: 1088-9051</p> <p>-----</p>	
A	<p>PIETROKOVSKI S: "Intein spread and extinction in evolution" TRENDS IN GENETICS, ELSEVIER, AMSTERDAM, NL, vol. 17, no. 8, 1 August 2001 (2001-08-01), pages 465-472, XP004301639 ISSN: 0168-9525</p> <p>-----</p>	
P,X	<p>DATABASE TREMBL 'Online! 1 June 2003 (2003-06-01), BUELL ET AL.: "Filamentous hemagglutinin, intein-containing, putative." XP002273907 Database accession no. Q880E1 *Sequence SEQ ID No 13 and 14* the whole document</p> <p>-----</p> <p style="text-align: center;">-/--</p>	1-121

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP 03/00956

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	DATABASE TREMBL 'Online! 1 June 2003 (2003-06-01), BROWN ET AL.: "Hypothetical protein SCP1.201" XP002273908 Database accession no. Q9ACV2 *Sequence SEQ ID No 15* the whole document -----	1-121
P,X	DATABASE TREMBL 'Online! 1 March 2003 (2003-03-01), REN S: "Probable phenazine biosynthesis family protein" XP002273910 Database accession no. Q8EZX6 *Sequence SEQ ID No 37* the whole document -----	1-121
P,X	DATABASE TREMBL 'Online! 1 October 2003 (2003-10-01), GLOECKNER FO ET AL.: "HYPOTHETICAL PROTEIN RB6107" XP002273911 Database accession no. Q7UQT4 *Sequence SEQ ID No 40* the whole document -----	1-121
P,X	DATABASE TREMBL 'Online! 1 June 2003 (2003-06-01), OMURA ET AL.: "Hypothetical protein SAV200" XP002273912 Database accession no. Q82RE3 *Sequence SEQ ID No 41* the whole document -----	1-121
P,X	DATABASE TREMBL 'Online! 1 June 2003 (2003-06-01), OMURA ET AL.: "hypothetical protein SAV286" XP002273913 Database accession no. Q82R58 *Sequence SEQ ID No 42* the whole document -----	1-121
P,X	DATABASE TREMBL 'Online! 1 June 2003 (2003-06-01), OMURA ET AL.: "hypothetical protein SAV5292" XP002273914 Database accession no. Q82CQ1 *Sequence SEQ ID No 43* the whole document -----	1-121
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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/IL 03/00956

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	<p>DATABASE TREMBL 'Online! 1 March 2003 (2003-03-01), REN S.: "hypothetical protein LA3719" XP002273915 Database accession no. Q8EZY2 *Sequence SEQ ID No 60* the whole document -----</p>	1-121